

What Is Claimed Is:

1. A method of forming a color filter layer, comprising:

forming a first sub-color filter on a substrate by placing a first mold having at least a first groove on the substrate and injecting a first color resin into the first groove, the substrate including first, second and third regions and the first groove corresponding to the first region;

forming a second sub-color filter on the substrate by placing a second mold having at least a second groove on the substrate and injecting a second color resin into the second groove, the second groove corresponding to the first and second regions; and

forming a third sub-color filter on the substrate by placing a third mold having at least a third groove on the substrate and injecting a third color resin into the third groove, the third groove corresponding to the first, second and third regions.

2. The method according to claim 1, wherein the first color resin is injected through an opening of the first groove, the second color resin is injected through an opening of the second groove, and the third color resin is injected through an opening of the third groove.

3. The method according to claim 1,

wherein the forming the first sub-color filter on the substrate further comprises:

curing the first color resin with one of heat and light; and
detaching the first mold from the substrate,
wherein the forming the second sub-color filter on the substrate further comprises:
curing the second color resin with one of heat and light; and
detaching the second mold from the substrate, and
wherein the forming the third sub-color filter on the substrate further comprises:
curing the third color resin with one of heat and light; and
detaching the third mold from the substrate.

4. The method according to claim 1, wherein the first mold, the second mold and the third mold include a transparent material.

5. The method according to claim 1, wherein the second groove covers the first sub-color filter when the second mold is placed on the substrate.

6. The method according to claim 1, wherein the third groove covers the first and second sub-color filters when the third mold is placed on the substrate.

7. The method according to claim 1, wherein the first, second and third sub-color filters have one of stripe shape, round shape and zigzag shape.

8. The method according to claim 1, further comprises forming a black matrix over the substrate.

9. The method according to claim 1, wherein the first, second and third regions correspond to pixel regions of a liquid crystal device.

10. The method according to claim 1, wherein the first, second and third color resins are injected by a capillary force.

11. A method of forming a color filter layer, comprising:
attaching a first mold having at least a first groove on a substrate and forming a first channel between the first groove and the substrate;
filling the first channel with a first color resin to form a first sub-color filter;
attaching a second mold having at least a second groove on the substrate and forming a second channel between the second groove and the substrate;
filling the second channel with a second color resin to form a second sub-color filter;
attaching a third mold having at least a third groove on the substrate and forming a third channel between the third groove and the substrate; and

filling the third channel with a third color resin to form a third sub-color filter.

12. The method according to claim 11, wherein the first mold, the second mold and the third mold include a transparent material.

13. The method according to claim 11, further comprises:

curing the first sub-color filter with one of heat and light;

detaching the first mold from the substrate;

curing the second sub-color filter with one of heat and light;

detaching the second mold from the substrate;

curing the third sub-color filter with one of heat and light; and

detaching the third mold from the substrate.

14. The method according to claim 11, wherein the first, second and third channels are filled by a capillary force.

15. The method according to claim 11, wherein a volume of the first groove is substantially the same as a volume of the first sub-color filter, a volume of the second groove is substantially the same as a sum of volumes of the first and second sub-color

filters, and a volume of the third groove is substantially the same as a sum of volumes of the first, second and third sub-color filters.

16. A method of fabricating a color filter substrate for a liquid crystal display device, comprising:

forming a black matrix on a substrate having first, second and third regions;

attaching a first mold having a first groove on the substrate, the first groove corresponding to the first region, the first groove and the substrate constituting a first channel;

filling the first channel with a first color resin to form a first sub-color filter;

curing the first sub-color filter;

detaching the first mold from the substrate;

attaching a second mold having a second groove on the substrate, the second groove corresponding to the first and second regions, the second groove, the first sub-color filter and the substrate constituting a second channel;

filling the second channel with a second color resin to form a second sub-color filter;

curing the second sub-color filter;

detaching the second mold from the substrate;

attaching a third mold having a third groove on the substrate, the first groove corresponding to the first region, the third groove, the first sub-color filter, the second sub-color filter and the substrate constituting a third channel;

filling the third channel with a third color resin to form a third sub-color filter;

curing the third sub-color filter;

detaching the third mold from the substrate; and

forming a common electrode on a color filter layer including the first, second and third sub-color filters.

17. The method according to claim 16, wherein the first mold, the second mold and the third mold include a transparent material.

18. The method according to claim 17, wherein the transparent material includes polydimethylsiloxane (PDMS).

19. The method according to claim 16, wherein the first sub-color filter is cured by irradiating light through the first mold, the second sub-color filter is cured by irradiating light through the second mold, and the third sub-color filter is cured by irradiating light through the third mold.

20. The method according to claim 16, wherein the first, second and third regions correspond to pixel regions of the liquid crystal device.